PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a new traffic control signal at the intersection of MD 30 (Hanover Pike) and Farm Woods Lane in Carroll County, Maryland. MD 30 is considered to run in a north/south direction.

II. INTERSECTION OPERATION

The intersection is to operate in a NEMA four (4) phase, full-traffic-actuated mode. There will be an exclusive/permissive left trun phase for the southbound movement of MD 30. The MD 30 through movements will operate concurrently. The Farm Woods Lane movement will operate alone. There will be a railroad pre-emption phase for the Farm Woods Lane movement.

An eight phase, full-traffic-actuated, solid state digital controller with intersection monitor and harness, battery back-up, and 2 four-channel rack mounted time delay output loop detector amplifiers housed in a base mounted cabinet are to be installed at this location.

EQUIPMENT LIST

A. Approved S.H.A. equipment to be purchased by the Developer and installed by the Contractor. All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	Specification Section	Description
1	EA	818	21 ft. steel twin mast arm pole (15 ft."T") with two 50 ft. (curved) mast arms [Note: 1-3/4 in. x 90 in. anchor bolts].
1	EA	816	Standard S.H.A. traffic signal controller, base mounted cabinet, and 2 four-channel rack mounted loop detector amplifiers [Note: Controller and cabinet shall be supplied by Econolite and delivered to the S.H.A. signal shop for wiring and testing. Contact Mr. Ed Rodenhizer (410) 787-7650].
5	EA	814	12 in., one-way, three section (R,Y,G) adjustable traffic signal head with mast arm mounting hardware and tunnel visors.
1	EA	814	12 in., one-way, five section (R,Y,YA,G,GA) adjustable traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	813	30 in. x 36 in. R 3-5(L) sign with mast arm mounting hardware.
2	EA	813	30 in. x 36 in. R 3-5(R) sign with mast arm mounting hardware.
1	EA	813	36 in. x 42 in. R 10-12 sign with mast arm mounting hardware.
1	EA	813	16 in. x Var. D-3(1) (Dual Face) sign with mast arm mounting hardware.
2	EA	813	48 in. x 48 in. W 3-3 "NEW" sign for ground mounting.

B. Equipment to be furnished and installed by the Contractor.
All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	Specification Section	Description
Lump Sum	LS	108	Mobilization.
Lump Sum	LS	104	Maintenance of traffic.
2	CY	205	Test pit excavation.
13	EA	811	Handhole.
530	LF	815	Sawcut for signal loop detector.
1935	LF	810	Loop detector wire (No. 14 A.W.G.) encased in flexible tubing.
1100	LF	810	2-conductor (aluminum shielded) electrical cable (No. 14 A.W.G.).
90	LF	810	5-conductor electrical cable (No. 14 A.W.G.).
525	LF	810	7-conductor electrical cable (No. 14 A.W.G.).
15	LF	810	3-wire (No. 4 A.W.G.) electrical cable.
140	LF	804	Bare copper stranded ground wire (No. 6 A.W.G.).
35	LF	805	1 in. liquid tight flexible non-metalic conduit for loop detector sleeve.
730	LF	805	2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
150	LF	805	2 in. polyvinyl chloride [Schedule 80] electrical conduit - pushed.
40	LF	805	2 in. polyvinyl chloride [Schedule 80] electrical conduit - pushed (4 ft. depth).
50	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
160	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - slotted in roadway.
10	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
4.5	CY	801	Concrete foundation for traffic signal equipment.
3	EA	804	Ground rod -3/4in. diameter x 10 ft. length.
1	EA	807	Control and distribution equipment (120/240 V, one phase, three wire system) for a MD-SHA type B-1 underground electrical service.
80	LF	550	24 in. wide HAPPTPM - white for stop line.
82	LF	812	4 in. x 6 in. wood sign support.
1	EA	---	Cut, clean, and cap mast arm.
Lump Sum	LS	---	Selective tree trimming.
Lump Sum	LS	---	As-built for S.H.A. [on CADD].

CONTACT LIST

The contact persons for District #7 are as follows:

Mr. Robert Fisher
District Engineer
301-624-8101

Mr. John Concannon
Assistant District Engineer - Traffic
301-624-8141

Mr. Jim Buckalew
Assistant District Engineer - Utility
301-624-8116

Mr. Leon Kerns
Assistant District Engineer - Maintenance
301-624-8106

Mr. Richard L. Daff
Chief, Traffic Operations Division
410-787-7630

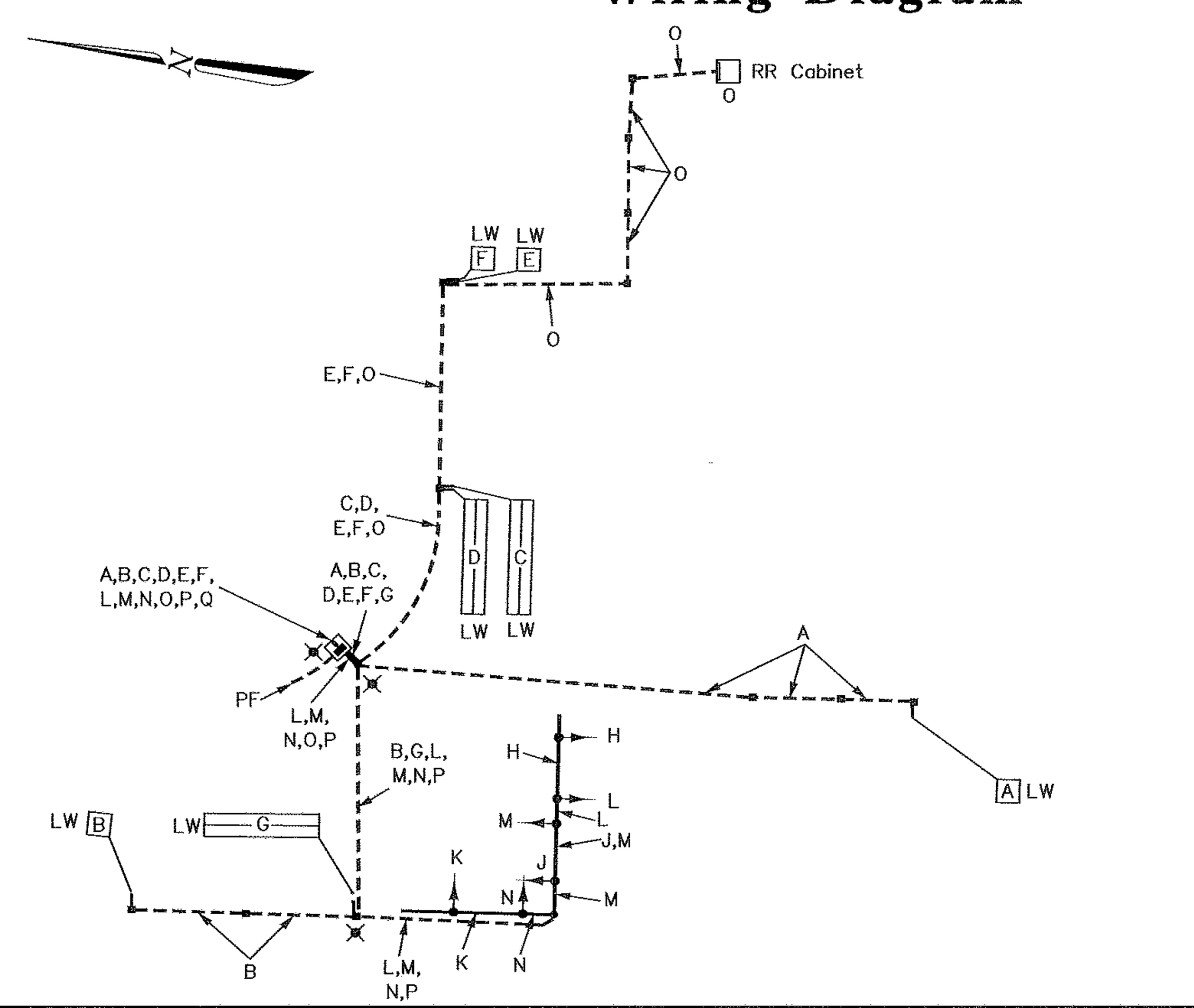
The Power Company Representative is:
Baltimore Gas and Electric Company
Mr. Bernie Thuman
7317 Parkway Drive South
Hanover, Maryland 21076
410-859-9030

Phase Chart

	1	2	3	4	5	6
Phase 1 & 6	R	R	G ←G	G	R	R
1 Change	R	R	G ←Y	G	R	R
Phase 2 & 6	G	G	G	G	R	R
2 & 6 Change	Y	Y	Y	Y	R	R
Phase 4	R	R	R	R	G	G
4 Change	R	R	R	R	Y	Y
Flashing Operation	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R

	1	2	3	4	5	6
RR Pre-Emption	R	R	R	R	G	G
RR Pre-Emption Change	R	R	R	R	Y	Y

Wiring Diagram



A, B, C, D, E, F, G — 2-Conductor Cable (Aluminum Shielded)

H, J, K — 5-Conductor Electrical Cable (No. 14 A.W.G.)

L, M, N, O — 7-Conductor Electrical Cable (No. 14 A.W.G.)

P — Bare Copper Ground Wire (No. 6 A.W.G.)

Q — 3-Wire (No. 4 A.W.G.) for Traffic Signal Electrical Service

LW — Loop Detector Wire (No. 14 A.W.G.) in Flexible Tubing

PF — Proposed Underground Electrical Service By BG&E and Telephone Drop by Bell Atlantic

Proposed Grounding Rod

The Traffic Group
The Traffic Group, Inc.
410-583-8405
Fax 410-321-8458

REVISIONS

APPROVALS

TEAM LEADER, TRAFFIC ENGINEERING DESIGN DIVISION

ASST. CHIEF TRAFFIC ENGINEERING DESIGN DIVISION

CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION

DIRECTOR, TRAFFIC & SAFETY

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
(General Information)

MD 30 (Hanover Pike) at Farm Woods Lane

DRAWN BY: J. Dirndorfer
CHECKED BY:
SCALE: N/A
DATE: October 20, 1999

F.A.P. NO. N/A
S.H.A. NO. BW996M82
COUNTY: Carroll
LOG MILE:

TS NO. 3897-GI
T.I.M.S. NO.

SHEET NO. 2 OF 2

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